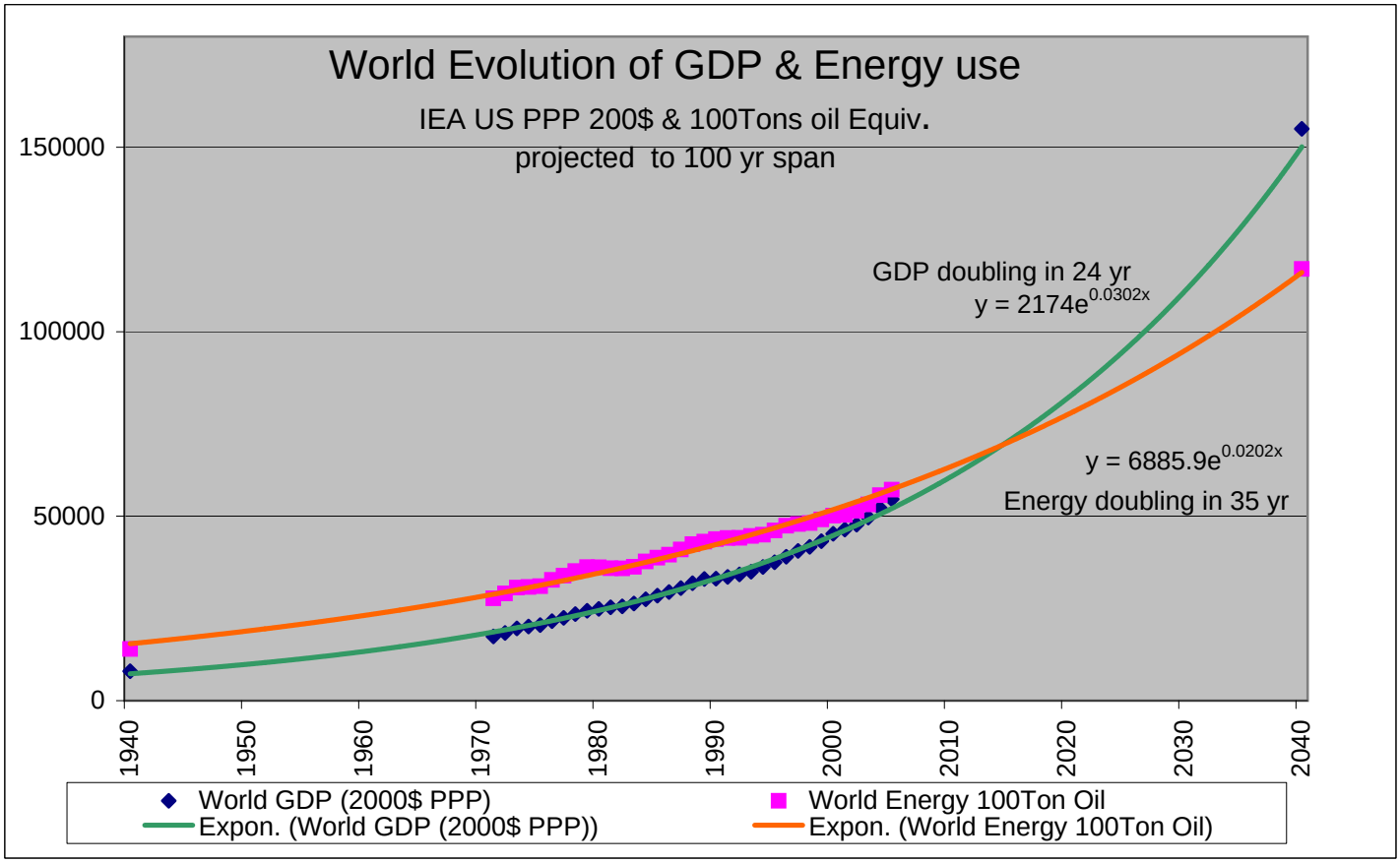
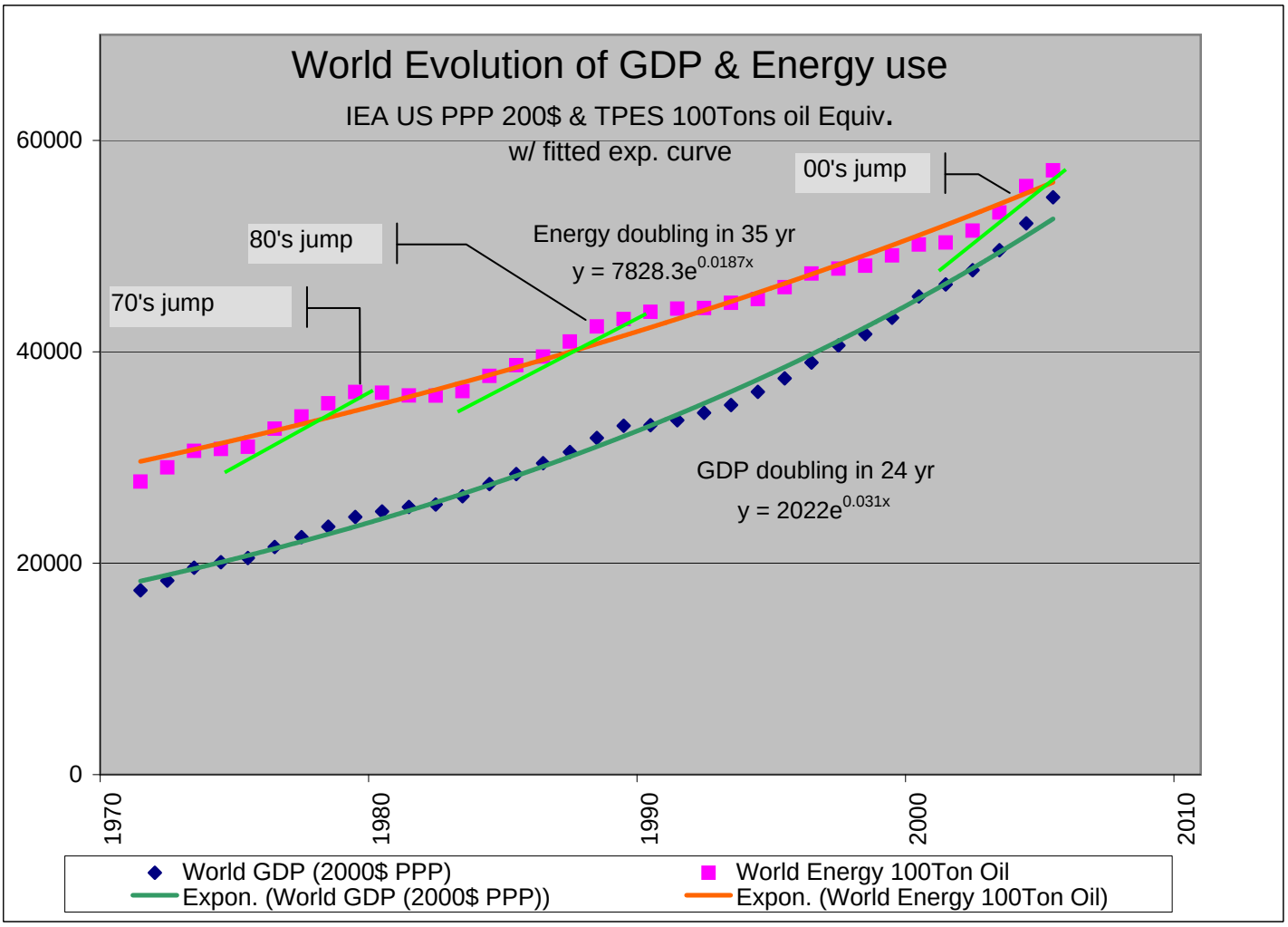
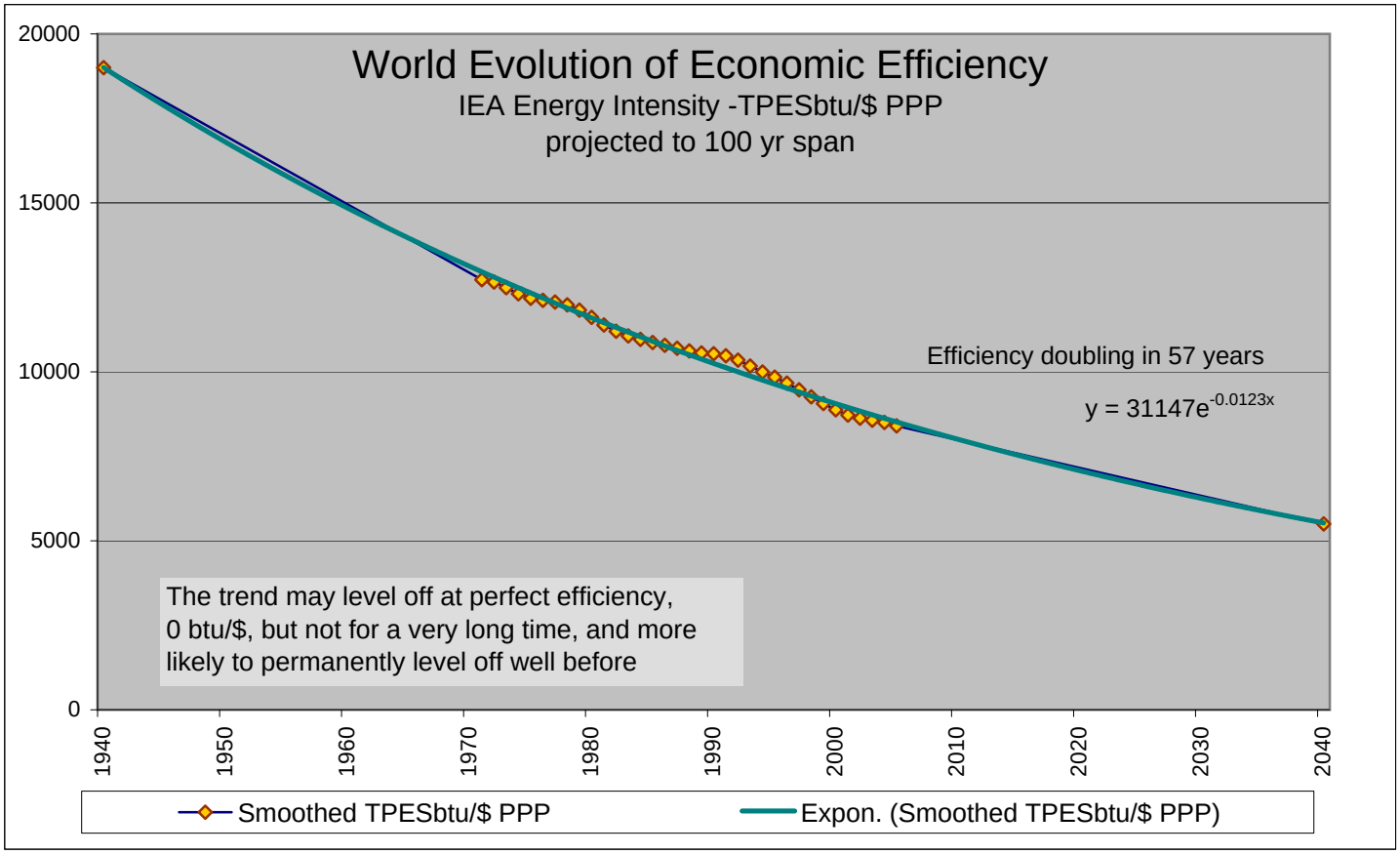
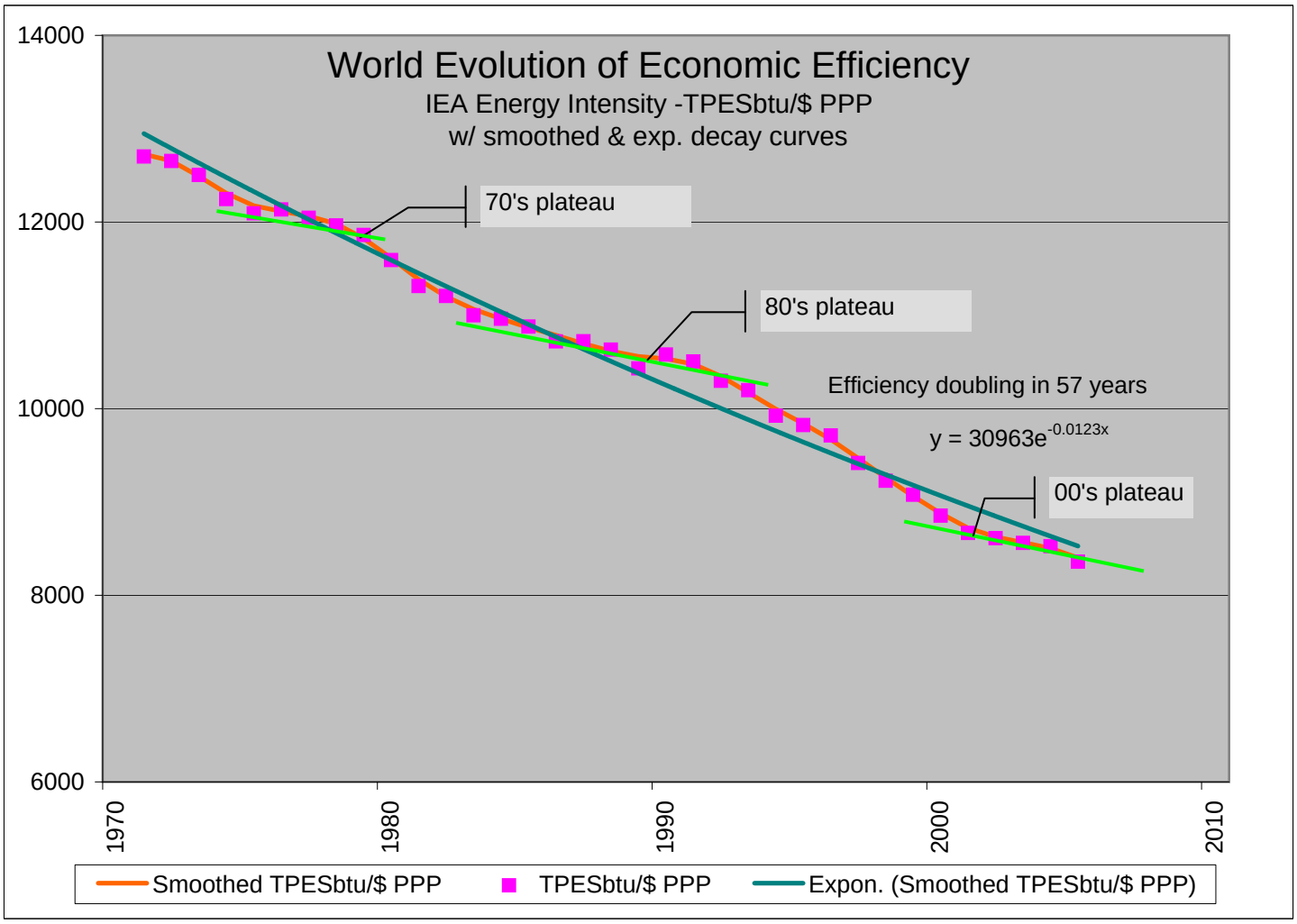

World Evolution of GDP & Energy use
IEA US PPP 200$ & 100Tons oil Equiv.
projected to 100 yr span
GDP doubling in 24 yr
y = 2174e^0.0302x
y = 6885.9e^0.0202x
Energy doubling in 35 yr
150000
100000
50000
0
1940
1950
1960
1970
1980
1990
2000
2010
2020
2030
2040
World GDP (2000$ PPP)
Expon. (World GDP (2000$ PPP))
World Energy 100Ton Oil
Expon. (World Energy 100Ton Oil)


World Evolution of GDP & Energy use
IEA US PPP 200$ & TPES 100Tons oil Equiv.
w/ fitted exp. curve
00's jump
80's jump
70's jump
Energy doubling in 35 yr
y = 7828.3e^0.0187x
GDP doubling in 24 yr
y = 2022e^0.031x
60000
40000
20000
0
1970
1980
1990
2000
2010
World GDP (2000$ PPP)
Expon. (World GDP (2000$ PPP))
World Energy 100Ton Oil
Expon. (World Energy 100Ton Oil)


World Evolution of Economic Efficiency
IEA Energy Intensity -TPESbtu/$ PPP
projected to 100 yr span
Efficiency doubling in 57 years
y = 31147e^-0.0123x
The trend may level off at perfect efficiency, 0 btu/$, but not for a very long time, and more likely to permanently level off well before
20000
15000
10000
5000
0
1940
1950
1960
1970
1980
1990
2000
2010
2020
2030
2040
Smoothed TPESbtu/$ PPP
Expon. (Smoothed TPESbtu/$ PPP)


World Evolution of Economic Efficiency
IEA Energy Intensity -TPESbtu/$ PPP
w/ smoothed & exp. decay curves
70's plateau
80's plateau
Efficiency doubling in 57 years
y = 30963e^-0.0123x
00's plateau
14000
12000
10000
8000
6000
1970
1980
1990
2000
2010
Smoothed TPESbtu/$ PPP
TPESbtu/$ PPP
Expon. (Smoothed TPESbtu/$ PPP)